

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY LICENSING BOARD**

In the Matter of:)	
)	
Interim Storage Partners)	Docket No. 72-1050
)	
(WCS Consolidated Interim Storage Facility))	
)	

**FASKEN AND PBLRO’S REPLY TO ISP’S OPPOSITION
TO HEARING REQUEST AND PETITION TO INTERVENE**

I. INTRODUCTION

Fasken and PBLRO (“Petitioners”) submit this Reply in response to Interim Storage Partners LLC’s (“ISP’s”) Answer Opposing Hearing Request and Petition to Intervene (Nov. 20, 2018) (ML18324A892) (the “ISP Response”) addressing Fasken and PBLRO’s Hearing Request and Petition to Intervene (Oct. 29, 2018) (ML18302A412) (the “Hearing Request”).

As discussed below in Section II.A, Fasken has shown, and the NRC Staff agrees, that Fasken and PBLRO have standing to request a hearing. Section II.B asserts that Contention 1 is not a challenge to the Continued Storage Rule. Section II.C asserts that Contention 2 is material, that ISP has not performed a detailed site investigation for site suitability regarding oil & gas wells, and that these oil and gas wells should be analyzed as potential pathways to groundwater. Section II.D asserts that Contention 3 is admissible because it raises a material issue pursuant to guidance from NUREG-1567. Section II.E asserts that Contention 4 is admissible because there is a genuine dispute of fact regarding the presence of aquifers below the proposed site and ISP has failed to conclude that subsurface groundwater will not be contaminated by means of a direct pathway. Lastly, Section II.F asserts that Contention 5 is admissible because ISP fails to rely on

recent data to meet the requirements of 10 C.F.R. § 51.45(b) requiring the environmental description, impact and effects that a proposed action will have on threatened or endangered species and their habitat.

II. DISCUSSION

A. Petitioners have Standing based on proximity and representational standing.

ISP argues that Fasken and PBLRO have failed to establish either proximity-based standing or traditional standing.¹ Apart from disputing ISP's claim that Petitioners and Beyond Nuclear use the same declarant to establish standing,² ISP's arguments regarding standing have been previously addressed in the Fasken and PBLRO intervention petition and will not be restated here. Additionally, NRC Staff has determined Petitioners have demonstrated proximity-plus standing and organizational standing.³

B. Contention 1 is not a challenge to the Continued Storage Rule.

ISP argues that Contention 1 is an impermissible challenge to the Continued Storage Rule.⁴ However, the point of Contention 1 is to reinforce the Continued Storage Rule's support for on-site SNF storage as a safe and secure practice even for indefinite durations. In effect, ISP's argument is that at-reactor storage and its proposed CISF are both safe and secure; however, because the proposed CISF is a different facility it somehow offers more safety and

¹ ISP Response at 23.

² See NRC Staff Response to Beyond Nuclear Hearing Request and Petition to Intervene (Oct. 29, 2018) (ML18302A365) at 7, f.n. 32 (Staff supports Beyond Nuclear's proximity and representational standing based on the declaration of Rose Gardner: "Because the NRC Staff agrees that the Gardner declaration provides sufficient support to establish the Petitioner's representational standing, the NRC Staff does not consider it necessary to determine whether Mr. Boyd has independently articulated a basis for standing.").

³ See NRC Staff's Response to Fasken & PBLRO Petition to Intervene, pp. 3-6 ("Staff Response").

⁴ ISP Response at 33.

security. ISP contends that an away-from-reactor CISF is “more safe and secure” for various reasons “such as consolidating and enhancing monitoring and security functions”.⁵ But ISP offers no examples of or comparisons to extant on-site storage that are plagued by insufficient monitoring or security. ISP’s argument infers that its proposed CISF is superior but such is undermined by ISP’s agreement with the provisions of the Continued Storage Rule that find both methods safe and secure.⁶

Staff opposes Contention 1, as well. *Inter alia*, Staff argues that the prospect of the interim facility becoming a *de facto* permanent facility does not implicate the Blue Ribbon Commission and that the ER actually supports the BRC’s condition that a CISF be located in a state and community that willingly offers to host it.⁷ This argument does not address the willingness of a community to host a CISF that may become a *de facto* permanent facility. ISP offers no examples of communities or states that are lining up to host a CISF with the prospect that it may become a *de facto* permanent facility. Moreover, this argument disregards the concerted resolutions and opposition to the proposed CISF throughout the past two years by Texas and New Mexico bodies politic.⁸

C. Contention 2 is admissible because it states a material issue which was omitted from ISP’s site suitability analysis.

1. Contention 2 states a material issue.

⁵ *Id.* at 30.

⁶ *Id.*

⁷ Staff Response at 14.

⁸ Resolutions in opposition to the proposed CISF include, but are not limited to, Dallas County, TX (Apr. 2017), Midland County, TX (Apr. 2017), Bexar County, TX (Feb. 2017), Midland, TX (Nov. 2018), San Antonio, TX (Mar. 2017), Santa Fe County, NM (Sept. 2018), Las Cruces, NM (July 2018), Belen, NM (Nov. 2018), Lake Arthur, NM (Sept. 2017), and the New Mexico Cattle Growers’ Assoc. (June 2018).

ISP claims that Petitioners have failed to identify a material issue pursuant to 10 C.F.R. §§ 2.309(f)(1)(iv).⁹ Contrary to ISP’s claims, Petitioners and Staff agree that the issue presented in Contention 2 is material.¹⁰ ISP tries to distinguish the *Exelon* case by its factual difference involving a light water nuclear power reactor to the current proceedings which involves a ISFSI.¹¹ However, the crux of the issue in *Exelon* involved an analysis under 10 C.F.R. § 100.20(b) which pertained to the site’s suitability, and considered the “nature and proximity of manrelated hazards” and “[p]otential hazards associated with nearby ... industrial ... facilities.”¹² ISP argues that Section 100.20(b) is completely different than Section 72.103 because Section 72.103 addresses: “unstable geological characteristics, soil stability problems, or potential for vibratory ground motion.”¹³ However, Section 72.103, while more general than Section 100.20(b), requires that “regional geographic” conditions be considered.¹⁴ ISP’s attempt to distinguish *Exelon* from this proceeding conveniently omitted Section 72.103’s requirement that the applicant consider the “regional geographic” conditions, and in doing so, improperly guides the Board as to the crux of the issues addressed by Petitioners in the *Exelon* case.

ISP claims that Petitioners provide no explanation for how abandoned or orphan wells could impact the CISF,¹⁵ but this is not the duty of the Petitioners. As 10 C.F.R. § 72.103(a)(1) states, “sites will be acceptable if results from the onsite foundation and geological investigation

⁹ ISP Response at 38.

¹⁰ Hearing Request at 16 (citing *In the Matter of Exelon Nuclear Texas Holdings, LLC* (Victoria County Station Site), LBP-11-16, 73 N.R.C. 645, 669 (2011) (hereinafter *Exelon*)); Staff Response at 16 (“Staff does not oppose the admissibility of Contention 2” and therefore implies that the contention raises a material issue).

¹¹ ISP Response at 40.

¹² *Exelon*, 73 N.R.C. at 669.

¹³ ISP Response at 40.

¹⁴ 10 C.F.R. § 72.103(a)(1)

¹⁵ ISP Response at 38.

of geological investigation, literature review, and *regional geological reconnaissance* show no unstable geological characteristics....” Since it is the duty of ISP to show there are no unstable geological characteristics based on their investigation, review, and regional geological reconnaissance, it is thus ISP that must explain how abandoned or orphan wells could impact the CISF. By failing to include an explanation of how abandoned and orphan wells may impact the CISF, it is ISP that actually fails to show there are no unstable geological characteristics.

2. ISP has not performed a detailed site investigation for site suitability purposes under 10 C.F.R. § 72.103(a)(1) regarding active, abandoned, and orphan oil and gas wells and their effect on the stability of the WCS CISF site.

Contention 2 asserts that ISP’s Safety Analysis Report (SAR) fails to mention or discuss the presence and effect that well bores drilled near the WCS site will have on the stability of the site.¹⁶ Staff, in part, agrees that Contention 2 is admissible on these grounds.¹⁷

While ISP’s SAR has analyzed the seismic activity related to “petroleum recovery activities,”¹⁸ the SAR has not analyzed the potential effects that the 905 abandoned wells or additional orphan wells may have on the stability of the site as required by 10 C.F.R. § 72.103(a)(1).

In its response, ISP states that it performed a “detailed site investigation” of the site and states that an evaluation of unstable geological characteristics, soil stability problems, or potential for vibratory ground motion at the site was “provided throughout SAR Chapter 2 and

¹⁶ Hearing Request at 15-17.

¹⁷ *Id.* at 17; Staff Response at 16 (Staff does not oppose the admissibility of Contention 2 as a challenge to the application’s evaluation of the potential impact of wells on site stability pursuant to 10 C.F.R. § 72.103(a)(1), but does oppose the contention in regards to its claim that wells “should be analyzed as potential pathways to groundwater.”).

¹⁸ *Id.* at 37 (citing SAR Section 2.6.2 (Vibratory Ground Motion)).

its attachments.”¹⁹ However, while ISP states that it “considered local land uses, including ‘drilling for and production from oil and gas wells,’”²⁰ these considerations are more or less vague statements that minimize the full extent of the oil and gas exploration and production prevalent within the vicinity of the site. 10 C.F.R. § 72.103(a)(1) not only requires that an applicant consider the geological characteristics of the region, but also requires an applicant to show that there are “no unstable geological characteristics, soil stability problems, or potential for vibratory ground motion at the site....” While ISP may have *considered* the regional land use of drilling and production from oil and gas wells, ISP fails to include and to dispute in their response²¹ the presence *and effect* that the 4,947 wells located within a 10-mile radius will have on the site—specifically as it relates to the 905 abandoned and orphan wells.²²

ISP’s statement that the “[a]pplication fully acknowledges the oil and gas wells in the region and highlights the ‘absence of oil wells on the site’”²³ is misleading. In its response, ISP references an analysis in its application of subsurface petroleum exploration and production which states that “[t]he local area has been heavily explored for oil and gas reserves over the last 35 years.”²⁴ ISP suggests that an “absence of oil wells on the site” supports the absence of favorable conditions for oil production.²⁵ This suggestion is improper. In fact, of the 3,656 well bores still in production,²⁶ one active well is situated immediately adjacent to WCS’ south-

¹⁹ ISP Response at 35 (citing SAR Section 2.6 titled “Geology and Seismology,” each of the Section’s Subsections and supposed relevant SAR attachments including “Attachment D (Seismic Hazard Evaluation for WCS CISF) and Attachment E (Geotechnical Investigation for WCS CISF)”).

²⁰ *Id.*

²¹ *Id.* at 34-41.

²² Hearing Request at 17.

²³ ISP Response at 37.

²⁴ *Id.*

²⁵ *Id.*

²⁶ Pachlhofer Decl. at 6.

eastern border;²⁷ a fact which ISP fails to indicate in their response. The presence of this well clearly indicates that there are favorable conditions for oil and gas exploration and production activity near the site

3. Contrary to ISP, Petitioners claim that abandoned wells should be analyzed as potential pathways to groundwater is supported.

ISP states that there is a “single dry hole” that exists on the WCS CISF footprint.²⁸ Given that casing for oil and gas wells typically ends around 500 feet below the ground surface,²⁹ there is reason to believe that the rock and minerals located below the 500 foot mark of a dry well would create potential pathways to groundwater in the event of a credible accident or off-normal incident that breached the dry hole located on the WCS site and/or other abandoned and orphan wells in the site’s vicinity.

In summary, Contention 2 must be accepted pursuant to 10 C.F.R. § 72.103(a)(1) because Petitioners have identified a material issue regarding ISP’s failure to address the potential impact that regional abandoned and orphan wells may have on the stability of the WCS CISF site.

D. Contention 3 is admissible because it raises a material issue pursuant to guidance from NUREG-1567.

Contention 3 raises a material issue related to the completeness of ISP’s Application because of the absence of specifications regarding aircraft crashes as required by NUREG-1567 Sec. 2.5.2. NUREG-1567 Sec. 2.5.2 directs CISF applicants to consider aircraft parameters in determining the nature and extent of hazards that a CISF may encounter. Despite the unambiguous directive of NUREG-1567 Sec. 2.5.2 neither ISP nor Staff find that compliance

²⁷ ISP SAR, Figure 2-3 “Proposed WCS CISF 1-mile Radius” at 2-54 (the well is located inside of the notched-out section of the green perimeter used to indicate WCS’ current boundary).

²⁸ ISP Response at 40.

²⁹ Pachlhofer Decl. at 6.

therewith is required.³⁰ Notably, NUREG-1567 Sec. 2.5.2 does not delineate exceptions that allow a CISF applicant to forego the analysis of the effects of aircraft crashes. The Sec. 2.5.2 analysis is not dependent on whether the Applicant has deemed a particular hazard as a credible accident. Nor does Sec. 2.5.2 excuse the aircraft crash hazard analysis because the applicant has presented an emergency response plan. Indeed, the logic behind the Sec. 2.5.2 analysis is to require a detailed analysis of aircraft crash hazards to, *inter alia*, determine the suitability of emergency response plans.

The Sec. 2.5.2 analysis is crucial to the completeness of the CISF application. Without it, decision makers and the public will be unable to consider whether a CISF is sufficiently robust to withstand the effects of an aircraft crash let alone whether the emergency plan is adequate to deal with such.³¹

E. Contention 4 is admissible because there is a genuine dispute of fact regarding the presence of aquifers below the site and Applicants fail to conclude that subsurface groundwater will not be contaminated.

1. Petitioners have established that there is a genuine dispute of fact regarding the presence of aquifers below the proposed site.

ISP contends that Petitioners “commingle[] references to ISP’s ER and SAR” and “never clearly identify which portion(s) of the Application it purports to challenge.”³² However, Petitioners have identified pertinent sections within the SAR to support Contention 4, and thus satisfy the specificity and materiality requirements of Section 2.309(f)(1)(i), (v) and (vi).

Petitioners cite to the SAR to contradict ISP’s analysis of subsurface hydrology and water

³⁰ ISP Response at 42-48; Staff Response at 17-22.

³¹ See also RAI of Nov. 16, 2018, Enclosure 1 that raises questions about aircraft crashes in RAI 2.2-1 and the application’s deficiency related to 10 C.F.R. 72.94. This RAI cites NUREG-1567 Sec. 2.4.2 as a basis to consider the implications of aircraft traffic from nearby Lea County Airport on flyway V68.

³² ISP Response at 53.

bearing zones at the site.³³ The SAR and ER's analysis of the subsurface hydrology is virtually similar.³⁴ In fact, portions from either documents can be cited verbatim.³⁵ Similar to statements cited by Petitioners in support of their contention in the SAR, the ER claims that "the potential for negative impacts on surface water resources is very low due to lack of water presence and formidable natural barriers to any surface or subsurface water occurrences."³⁶ Given that the ER's analysis of the subsurface hydrology is virtually similar to that of the SAR, Petitioners reliance on the SAR to support Contention 4's argument regarding material issues of facts relating to the subsurface hydrology does not render Contention 4 inadmissible.

2. ISP fails to conclude that subsurface groundwater will not be contaminated by means of a direct pathway located at or near the site and Petitioners have provided adequate information to support their claim that radiological releases could contaminate groundwater beneath the site.

Petitioners assert that "the Ogallala Formation is present along the north and east side of the WCS-Flying 'W' Ranch."³⁷ Contrary to Petitioners claim, ISP does not admit that the Ogallala Formation is present, but submits that "if [the Ogallala Formation is] present, [it] is not water bearing in the WCS CISF area."³⁸ ISP dismisses Petitioner's claim that the Ogallala Aquifer extends beneath the WCS CISF site based on the Lehman and Rainwater study which found groundwater in the Ogallala Formation along the eastern border of the WCS ranch.³⁹ ISP supports the claim that their facility poses no threat to groundwater beneath the site based on

³³ Hearing Request at 28 (citing SAR at 2-21).

³⁴ Compare Environmental Report, Section 3.4.14 *et seq.* at 3-24 – 3-29 to SAR, Section 2.5. at 2-21 – 2-25.

³⁵ *Id.*

³⁶ ISP Environmental Report, Section 4.4 (Water Resources Impacts) at 4-29 - 4-30 (Rev. 2).

³⁷ Hearing Request at 28.

³⁸ ISP SAR at 2-22; ISP ER at 3-26.

³⁹ ISP Response at 60.

TCEQ approving the license for the WCS LLRW disposal facility in 2009 and a 2014 Texas Court of Appeals case affirming TCEQ's denial of contested groundwater contamination concerns.⁴⁰ These decisions came after the contested re-mapping of the Ogallala aquifer in 2007.⁴¹ Given the location of the Ogallala Aquifer is contested, the approval of WCS' LLRW license, and the decision of the Texas Court of Appeals came after the contested re-mapping, there is a genuine issue as to whether the Ogallala Aquifer exists below the site.

ISP also discredits Petitioners' argument that fractures in red bed clays overlying the Santa Rosa Aquifer may provide a direct pathway to the Santa Rosa Aquifer.⁴² ISP claims that "Mr. Pachlhofer provides no information or analysis to suggest that such fractures are interconnected and/or extend the entire depth of the geologic formations overlying the Santa Rosa Aquifer."⁴³ To the contrary, Mr. Pachlhofer infers that the red bed clay fractures are interconnected to the Santa Rosa using TCEQ's memo from 2007 citing that "[t]he fractures are up to 3 millimeters wide." While Mr. Pachlhofer suggests that fractures in red bed clays overlying the Santa Rosa Aquifer *may* provide a direct pathway to the Aquifer itself,⁴⁴ Mr. Pachlhofer also articulates that it is common for well casings of temporarily abandoned wells to end at approximately 500 feet below the ground's surface.⁴⁵ Even if ISP successfully contends that Mr. Pachlhofer has not provided that red bed clays would provide direct pathways to the Santa Rosa Aquifer, Mr. Pachlhofer has documented the presence of 905 deep and abandoned wells surrounding the WCS site. These wells could potentially serve as direct pathways to the

⁴⁰ ISP Response at 53.

⁴¹ *See* Pachlhofer Decl. at 5.

⁴² ISP Response at 61

⁴³ *Id.* at 61-62.

⁴⁴ Hearing Request at 30; Pachlhofer Decl. at 5.

⁴⁵ Pachlhofer Decl. at 6.

exposed rock located 500 feet below the surface of each hole, and ultimately, the subsurface water connected to each hole.

ISP has not only failed to analyze the impact that these abandoned and orphaned wells could have on the stability of the proposed site as mentioned in Contention 2, but it has also failed to analyze whether the wells surrounding the proposed site could serve as potential and direct pathways to the Santa Rosa Aquifers and other aquifers that each well intersects. Furthermore, ISP seems to contradict its stance that there is no potential for groundwater contamination, stating that unspecified aquifers “*should* be unaffected from effluents that might be produced during construction and operation.”⁴⁶ This statement is conclusory and riddled with uncertainty.

Petitioners have provided material issues of fact and provided adequate information relating to potential contamination of groundwater located below the proposed site. Given that ISP believes, but is not entirely certain that groundwater *should* be unaffected from effluents released during construction and operation of the facility, and given that ISP has failed to analyze the direct pathways to groundwater that could potentially be created by abandoned and orphaned wells, Contention 4 is admissible.

- F. Contention 5 is admissible because ISP fails to rely on recent data regarding changes in threatened and endangered species and habitats to meet the standards for environmental description, impact and effects under 10 C.F.R. § 51.45(b). Therefore, Petitioners disagree with ISP’s argument that the ER fully complies with NRC Regulations and guidance in considering the impact of the CISF on Endangered and Threatened species.**

NRC regulations require that ISP submit an ER that complies with the requirements of 10 C.F.R. Part 51.⁴⁷ The ER must contain a description of the environment that would be affected

⁴⁶ ISP ER at 4-65 (emphasis added).

⁴⁷ 10 C.F.R. § 72.34.

by the proposed construction and operation of the CISF, a description of the impact of the CISF on the environment, and a description of any adverse environmental effects which cannot be avoided.⁴⁸ Furthermore, NUREG-1748 “provides guidance to the NRC Staff in reviewing applications for construction of ISFSIs, as well as guidance to applicants on the format and technical content of an ER.”⁴⁹ NUREG-1748 states “[i]f a proposed action ‘may affect’ listed species or critical habitat, consultation with the U.S. Fish and Wildlife Service (FWS) or National Marine Fisheries Service is required” pursuant to 50 C.F.R. § 402.⁵⁰

ISP argues that its ER fully complies with NRC regulations and guidance based on ecological studies performed in 1997, 2004, 2007, and 2008.⁵¹ However, more recent research has been devoted to these vulnerable species and their habitats over the past 14 years and has revealed better-mapped ranges for the species.⁵² In fact, recent reports from the FWS state that prairie chicken numbers have improved over the years thanks to conservation efforts by the oil & gas and ranching industries.⁵³ Thus, reliance on these older studies that ISP uses to allegedly comply with NRC regulations and guidance documents is outdated and could very well misinterpret the current state of critical habitats and migration of species.

Even though it is based on the outdated ecological studies, Section 4.5.4 of the ER states that ISP expects there to be small land disturbances to dune formations located directly adjacent to the proposed site which are capable of providing a habitat for the Dunes Sagebrush Lizard.⁵⁴

⁴⁸ 10 C.F.R. § 51.45(b).

⁴⁹ISP Response at 66 (citing NUREG-1748, Environmental Review Guidance for Licensing Actions Associated with NMSS Programs; Final Report at 6-1 to 6-35 (Aug. 2003) (ML032450279)).

⁵⁰ NUREG-1748, Section 1.4.2 “Section 7 of the Endangered Species Act” at 1-8.

⁵¹ ISP Response at 67.

⁵² Pachlhofer Decl. at 8.

⁵³ Pachlhofer Decl. at 8.

⁵⁴ ISP Response at 68.

This may or may not be the case currently, but given the expectation of small disturbances of the Dunes Sagebrush Lizard, ISP is required to consult the FWS according to NUREG-1748,⁵⁵ something which it has not done. While the older ecological studies conclude the proposed site will disturb habitats of the Dunes Sagebrush Lizard, newer and more accurate studies may find that the proposed site could negatively impact the Lesser Prairie Chicken as well; especially considering research on the species has changed over the last 14 years and the number of prairie chickens have improved since then.⁵⁶

ISP's description of the environmental impacts on the subject species is insufficient and fails to make certain that the proposed action will not affect a listed species or critical habitat. Because the current description of the environment, the impact of the environment, and the adverse environmental effects on the environment are unknown based on the outdated data used by ISP, ISP has failed to meet the requirements of 10 C.F.R. § 51.45(b).

III. CONCLUSION

For the foregoing reasons, Petitioners' Hearing Request and Petition to Intervene should be accepted.

Respectfully submitted,

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⁵⁵ See NUREG-1748 Section 1.4.2 at 1-8.

⁵⁶ Pachlhofer Decl. at 8.

Certificate of Service

Undersigned certifies that a true and correct copy of the above and foregoing was submitted to the NRC's Electronic Information System for filing and service on participants in the above-captioned dockets.

/signed electronically by/
Robert V. Eye